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Climate scientists clear up discrepancy in global temperature record

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An international team of scientists has uncovered the reason for a sharp cooling in observed global sea temperatures at the end of the Second World War.

Using a new technique to remove temporary fluctuations in the global temperature record due to El Niño and transient weather patterns, a number of sudden drops in global temperature have been highlighted in a paper published in *Nature* this week. Most of these coincide with major volcanic eruptions. But the largest drop, occurring towards the end of 1945, is unrelated to any known eruption. Unlike the others, it is only apparent over the sea.

The research team has concluded that this drop is largely artificial. It arises from the different methods used by the United States and the UK to measure sea-surface temperature. During the later part of the war, most of the available observations are from US ships. A sudden increase in the frequency of observations from British ships in 1945 caused the apparent temperature drop. The initial drop is large, but it is temporary. By the 1960s the observing fleet was more diverse and any necessary corrections are likely to be small.

David Thompson of Colorado State University, who isolated the issue with the novel analysis said: "I was surprised to see the drop so clearly in the filtered data, and working in partnership with others realised that it couldn't be natural".

John Kennedy of the Met Office Hadley Centre said: "This is just one aspect of ongoing work to improve the quality of sea-surface temperature data. The paper draws attention to a potential underestimate of recent warming due to the introduction of automated ocean buoys".

Phil Jones of the Climatic Research Unit at the University of East Anglia said: "The study highlights how climate records need to be pieced together from measurements that were not designed to measure long-term trends and that the corrections required are an ongoing effort. It is just as vital to know how the measurements were taken as the values themselves".

The researchers say that although correcting the drop will change the character of mid-century temperature variability, it is not expected to have a significant effect on 20th Century warming trends.

Notes to Editors:

- This study was undertaken jointly by Colorado State University, University of Washington, the Met Office Hadley Centre and the Climatic Research Unit at the University of East Anglia.
- The Met Office Hadley Centre is the UK's foremost centre for climate change research. Partly funded by Defra (the Department for Environment, Food and Rural Affairs) and the Ministry of Defence it provides information to and advice to the UK Government on climate change issues.

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